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Bidding flexibility during inter-temporal constraints

The CAISO has proposed the following with regards to allowing bidding flexibility during inter-temporal constraints:

Issue	Proposal
Changing bids after a commitment decision during an inter-temporal constraint	Settle on bid that led to the binding commitment
Changing bids after a commitment decision without inter-temporal constraints	Monitor

NRG agrees that allowing market participants to change real-time bids at a time when the unit is constrained to operate at a particular MW level due to an operating constraint (e.g., a hold time or minimum operating time after a change to a particular MSG configuration) introduces the possibility that the market participant could seek to exercise market power by inflating its real-time bid when the unit is constrained to operate at that level. In that light, the CAISO’s proposal to settle on the original bid is reasonable.

The CAISO’s proposal to settle on the original bid is a reasonable approach except for those situations in which the scheduling coordinator may desire to change the bid not because of the exercise of market power but because of legitimately changed circumstances. For example, a unit constrained to operate at a particular level due to an operational constraint may need to change its bid to reflect a sudden change in operating conditions – for example, the sudden declaration of an OFO. For situations in which the need to change the bid arises from external circumstances, the CAISO could still adopt its proposed rule as long it offered an opportunity for the market participant to recover unexpected costs through an after-the-fact administrative mechanism.

Commitment cost market power mitigation

The CAISO notes that it is currently surveying other ISO/RTO market power mitigation methodologies as an alternative to bid caps. (Straw Proposal at 12.) NRG strongly supports this effort and looks forward both to the CAISO’s results and to consideration of an alternative methodology. The current system of bid caps may work most of the time, but the times where it has not worked have cost NRG dearly.

Recovery of gas costs through capacity contracts

The following is from the CAISO’s Straw Proposal (at 13):

The ISO reiterates that fuel costs included in the ISO markets should reflect marginal costs related to variable operation of the resource such as commodity fuel costs and electricity costs for auxiliary power.

There are additional capacity-related costs that are not compensated through the ISO’s energy markets as explained below in recent comments:

Resources critical to the reliability in the CAISO’s system receive compensation for capacity obligations under resource adequacy provisions. These capacity obligations include fuel costs associated with the resources’ obligations to ensure they have fuel and are available to the market as required by resource adequacy obligations. The CAISO believes, if it were to provide reimbursement for fuel costs above the bid cap, these costs should only include incremental fuel costs supporting the resource’s offer as opposed to other costs related to a resource’s capacity obligation such as natural gas pooling arrangement costs, imbalance penalties, or risk premiums to cover the cost of selling natural gas at a loss when a resource procures gas and then is not dispatched by the CAISO. The CAISO believes these costs are more appropriately recovered through compensation the resource receives for providing capacity as a resource adequacy resource as opposed to through the CAISO’s energy markets.

NRG disagrees strongly with the premise that generators will be able to recover costs associated with achieving gas flexibility in their resource adequacy payments. Most of the costs of transacting gas to support operation in the CAISO’s markets are fundamentally variable costs, incurred solely as a result of providing CAISO market products. While NRG appreciates the challenge associated with quantifying and reimbursing some of these real and legitimate costs through the CAISO’s markets, there is no good reason to seek to recover these fundamentally variable costs through fixed cost capacity contracts because the costs are not fixed operating costs and can vary greatly. Given the increasingly dynamic nature of the gas market, NRG is not sure how a generator could reasonably estimate what its exposure might be. NRG also thinks that it is pollyanish to assume that the buyer counterparties to capacity contracts will be eager or willing to simply roll these difficult-to-quantify costs into their capacity contracts. If generators are forced to attempt to recover these variable costs through the RA market, they will be forced to guess as to their expected gas-related expenses and incorporate that risk premium into their RA bids. Such an outcome simply increases prices for everyone.

Specific issues

The CAISO offers three proposals to specific issues, as noted below (Straw Proposal at 16)

Issue	Proposal
Inefficient accounting for minimum load costs after a Pmin rerate	Scale minimum load costs to the rerate capacity or calculate based on heat rate
Resources without a day-ahead schedule cannot rebid commitment costs	Allow resources without a day-ahead schedule to rebid commitment costs in the real-time
Gas price index may not reflect real-time gas purchase costs	Allow for real-time consideration of gas purchases above the gas price index

The CAISO offers these thoughts with regards to the third issue:

1. This process is to be used when the scheduling coordinator must procure incremental natural gas in real-time at a price above the gas price index plus the natural gas headroom. “Real-time” refers to purchases made during an intra-day nomination cycle.
2. The process will be an after-the-fact validation subject to documentation and verification and based on a threshold.
3. Documentation may include receipts and the ISO may verify each document provided.
4. The ISO will reimburse scheduling coordinators for higher gas price purchases if the purchases are within a threshold. The ISO will establish a threshold based on historical natural gas trades for the appropriate day and market. The threshold should be based on several sources, similar to how the current gas price index is calculated. If the sources indicate that gas trades for that particular day and market were thin, an alternative threshold may be used. The threshold may be based on a statistical analysis, percentile rankings, or other analysis as appropriate.
5. Any allowed increase in natural gas costs will be included in bid cost recovery.

NRG Comments:

- **Issue 1 – Pmin re-rates.** The CAISO has offered two alternatives: (1) scale the minimum load costs on a MW basis to the new PMin level, or (2) calculate the new Pmin cost based on the unit’s heat rate.

NRG does not find either of these options attractive. Option (1) will yield an answer that is simple – but wrong. Option 2 forces a purely cost-based bid, and re-introduces the problems associated with using a daily gas price index to set costs.

NRG offers this alternative: calculate the new Pmin cost based on the minimum load bid and the energy curve in place for the unit. A market participant uses the three-part bid structure to represent its unit to the CAISO’s optimization in a way that captures the market participant’s view of the economics for that unit, within the limitations imposed by the structure. Using the minimum load and energy bid submitted for the unit to create a new Pmin value preserves the market participant’s view of the economics of operating the unit at a particular operating level. NRG acknowledges that allowing the new Pmin cost to be determined from the existing Pmin bid and energy bid raises the need to address potential market power concerns (concerns that largely already exist independent of this proposal, and NRG looks forward to that discussion. Nevertheless, NRG feels that constructing a new Pmin value from a market participant’s bids is a far superior approach to either of the preliminary options offered by the CAISO.

- **Issue 2 – Allowing units without a DA schedule to rebid commitment costs in real-time.** NRG supports this proposal, and encourages the CAISO to propose rules governing the timing of real-time re-bidding. Indeed, most ISOs already incorporate such a feature, with ISO New England recently changing their rules to allow rebid of commitment costs.

- **Issue 3 – Allow real-time consideration of gas costs above the index price.** NRG is encouraged by the CAISO's willingness to consider recovery of gas costs above the index price level. As NRG has experienced, while the bid cap system may work for the CAISO and for market participants most of the time, subjecting market participants to huge losses for those situations in which it does not work is not a viable alternative, and some system that would allow for reimbursement of gas costs above the index is necessary.
 - **Threshold.** The CAISO seeks input on what the threshold cost above the index price would have to be before a market participant could seek direct reimbursement of above-index costs. NRG submits that there is no reason why a market participant should have to lose an arbitrary amount of money, no matter how large or small, before it could seek reimbursement of legitimately incurred costs. NRG proposes that the threshold be zero. NRG does not oppose the idea of trying to ensure that market participants avail themselves of this cost recovery option only as needed (which NRG hopes would be very infrequently), but does oppose the idea that a market participant must take an arbitrary loss before it can seek cost recovery. Allowing a market participant to invoice the CAISO for above-index costs will mean additional work for both the CAISO and the market participant, however the alternative – providing no means for recovery of these costs – is not acceptable.
 - **Documentation.** Documentation is a complicated issue. When a market participant incurs an unexpected gas burn for generating units clearing the market out-of-merit (e.g., through a minimum on-line commitment constraint or exceptional dispatch), the market participant may or may not have to procure gas in the intra-day market to support that burn, depending on the balancing period in place and the time the burn is incurred within the balancing period. A market participant may re-balance through subsequent next-day markets, if available.

NRG proposes that a market participant seeking to recover above-index costs be allowed to submit its own invoice to the CAISO, with supporting documentation and explanation, as opposed to trying to create or require a template invoice that requires specific information. Such explanation would include information about the cost of any gas sold (e.g., when gas was procured to support a market award that was subsequently cancelled by the CAISO, such as NRG incurred when the CAISO ordered NRG units off due to low pressure during the December 2013 gas event after NRG had already procured the gas to support the market awards.) If the CAISO is not comfortable reviewing and approving such invoices, it could enlist the services of an independent entity to perform that review.

Breaking up the weekend package

The CAISO notes (at 19): “Another stakeholder requested a breakup of the current three-day weekend gas “package.” While the ISO does not disagree with this in concept, the ISO has also received feedback that such indices for the weekend days or holidays are thinly traded. The ISO can continue to monitor this situation but does not propose any changes at the moment.”

The indices for weekend or holiday day currently are thinly traded because of the practice of trading gas in multi-day packages around those dates. The current state of the indices created by the package trading practices should not create a self-fulfilling prophecy that, because the daily indices are thinly traded, the weekend packages should be retained. NRG strongly encourages the CAISO to consider breaking up the weekend package; daily index liquidity may come if the multi-day packages are broken up and market demand is sufficient to attract buyers and sellers.

Differentiated headroom for daily commitment cost bidding

The CAISO has proposed to provide different headroom for different commitment cost components (Straw Proposal at 19-20)

	Current	Proposed
Natural gas	125%	125%
Greenhouse gas	125%	110%
GMC	125%	100%
Major maintenance adder	125%	100%
Non-fuel related costs	125%	110%
Default VOM	125%	100%
Auxiliary energy	125%	110%

NRG objects to this proposal. The current 25% headroom provided was not the result of meticulous analysis, but rather a generalization offered to speed implementation of a badly-needed fix to the CAISO’s bidding rules. Applying the 25% headroom to all of the components of the commitment cost was reasonable because (1) the headroom figure was a generalization and (2) commitment costs are single bid numbers, not presented to the CAISO as separate components.

As the CAISO noted in its November 25, 2014 response to FERC’s November 6, 2014 deficiency letter:

“The 125-percent proxy cost bid cap is necessary to give resources the headroom required to have a reasonable opportunity to recover their costs, akin to the headroom provided for variable costs under the existing 150-percent registered cost cap.” (at 11)

“As explained above, the 125-percent cap is based on the concept, consistently approved by the Commission in relation to the registered cost option, of providing

resources with sufficient flexibility to recover their actual commitment costs associated with CAISO market dispatches.” (at 14)

The CAISO, having successfully argued for and implemented the 125 percent cap, is now seeking to undo this without adequately explaining why the headroom that was just and reasonable when it proposed the 125% cap is no longer just and reasonable. For example, the CAISO has produced no evidence (or argument) that market participants are unjustly exploiting the 125% cap.

Further, the ISO’s continued preoccupation with using dated gas indices as a proxy for the reasonableness of the cost of gas procured at different times (intra-day, next day etc.), makes it important to retain the current headroom for all commitment cost components.

Finally, the CAISO has not adequately explained how it would implement or enforce the differentiated headroom concept when commitment cost bids are single dollar (\$) values which are not broken into component pieces.

For all of these reasons, NRG strongly objects to this proposal.

Differentiated gas transportation adders

The CAISO has proposed to differentiate the gas transportation rate for units that are served from the PG&E backbone from those that are served from the local gas transportation network. NRG supports this proposal.

Improvements to the energy price index calculation

NRG does not yet have comments on this issue but hopes to submit them at a later time. NRG notes that the CAISO does not publish this component of the commitment cost, and so it remains opaque to market participants. Whatever modifications are made to this cost component, NRG urges the CAISO to publish this component to provide some transparency as to its value.

Proposal for resource characteristics

The CAISO has proposed to create two sets of Master File resource characteristic values – one that reflects the “absolute” physical characteristics of a generating unit (to the extent such “absolutes” exist) and a second set of “market” characteristics for normal CAISO market operations.

NRG supports this proposal, which it perceives to be similar to PJM’s “eco/emergency” values. This proposal reflects the reality that a market participant may not wish to operate its unit at its extreme capabilities under normal market operations, but would make the unit available at those extreme capabilities in an emergency. NRG also experienced a situation in which the CAISO was repeatedly cycling through (starting and stopping within the same day) identical steam turbine units, leading to greatly increased wear and tear on those older units. Some application of this concept – allowing market parameters that would prevent such extreme cycling – would also be welcome. NRG will make every effort to make its units available to the CAISO at the unit’s full capabilities when needed, but sees

value and reduced risk in being able to operate units “away from the edge” under normal, non-emergency conditions.

NRG also hopes that this concept would provide a reasonable fix for some issues it encounters with its combustion turbines with very small operating “ranges”, for example, when an ambient de-rate effectively lowers the Pmin to a value outside of the Master File value, and the unit may be producing at the lower value but is not recognized as “on” because the value is below the Master File value.

While NRG supports this concept, many questions remain about how the “market” characteristics will be set. Additionally, because the CAISO proposes that these new “market characteristics” will be Master File values, they will be subject to the same long-lead time for any Master File modifications, which will make them relatively inflexible, which diminishes their value. NRG encourages the CAISO to explore ways to shorten the lead time for making changes to these new – and to all – Master File values.

Setting these market parameters and addressing the lead time for changes may be a challenge, but NRG supports pursuing this concept.